

## Knoxville Baseline Energy Inventory Summary

### Community Analysis

#### **Residential, Commercial, and Industrial**

- Knoxville, TN uses 13,506 kWh per capita. This is slightly above the national average of 12,347 kWh per person, and below the state average of 17,446 kWh per capita.
- An average house in the KUB service area used 12,000 kWh and 606 therms during 2005. This generates 13 tons a year of equivalent CO<sub>2</sub> for the average house in Knoxville.

#### **Transportation**

- Enough miles were traveled on Knoxville roads, in 2005, to drive to the moon and back 6,150 times or around the world 117,930 times.
- The transportation sector is responsible for 44% of eCO<sub>2</sub> emissions in the community analysis.
- The Knoxville External Cordon Line Video License Plate Survey conducted by the Transportation Planning Organization found that 20% of interstate traffic in Knoxville is long distance through traffic.
- While the population of Knoxville grew by 6% from 1990 to 2005, Knoxville VMT grew by 68%. Knoxville VMT is based on Knox County VMT totals from the Transportation Planning Organization. 60% of Knox County VMT is estimated to occur inside the city limits in 1990 and 2005. The Knox County population grew by 21% during the same time period, while VMT increased by 68%.

#### **Waste**

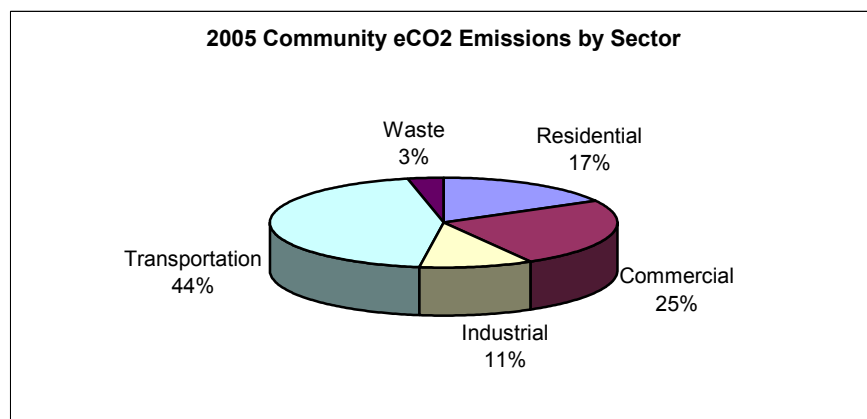
- Residential and commercial sectors generated 248,463 tons of waste in 2005.
- 4,882 tons of recyclables were collected at City drop-off centers in 2005.

#### **Water**

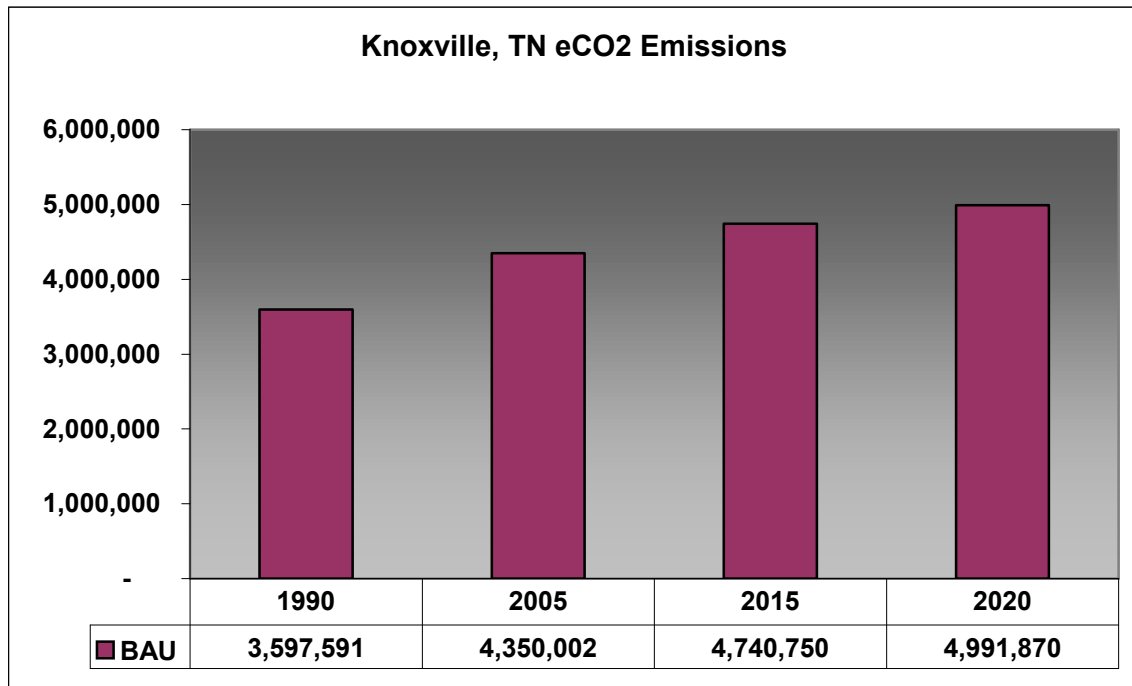
- Knoxville residents and businesses consumed 7,442,587,284 gallons of water in one year. This is enough water to fill the Sunsphere 4,885 times.

#### **Greenhouse Gas Emissions**

- Knoxville, TN produced 4,350,002 tons of equivalent CO<sub>2</sub> and used 38,713,308 MMBTUs of energy.



### Community Projections



- “Business as usual” (BAU) back cast for 1990 is based on population numbers for all sectors except for transportation. Vehicle miles traveled data was collected from the Metropolitan Planning Commission. MPC has tracked VMT since 1990.
- BAU projections for 2015 and 2020 are based on consumption growth rates provided from KUB and VMT data that is projected by the Transportation Planning Organization.

## **Government Analysis**

### **Buildings**

- The building sector generates the largest portion of eCO<sub>2</sub> emissions in the Government Analysis at 38.3%
- The City County Building produces an estimated 10,450 tons of eCO<sub>2</sub>. This is the most of any other government building that is included in the inventory.

### **Transportation**

- City vehicles traveled an estimated 19,115,105 miles using 1420 vehicles. This is enough miles to drive around the Earth 767 times.
- City employees traveled roughly 9,604,273 miles in their daily work commute. This is enough miles to the moon and back 20 times.

### **Streetlights**

- The City of Knoxville operates approximately 29,630 streetlights.
- Streetlights and traffic signals use almost as much electricity as the building sector. City buildings used 34,568,149 kWh in 2005, while streetlights and traffic signals consumed 31,061,365 kWh in 2005.

### **Waste**

- City government operations generated an estimated 1267 tons of waste during the year.

### **Water**

- City government operations consumed 149,140,728 gallons of water in 2005. This is enough water to fill the Sunsphere 98 times.
- The city government is responsible for 2% of the water consumed in Knoxville.

### **Costs**

- The City of Knoxville spent of total of \$8,266,820 on utilities, vehicle fuel, and waste collection in 2005.
  - Buildings/Parks= \$3,718,933 (45%)
  - Vehicle Fleet = \$2,922,329 (35%)
  - Streetlights/Traffic Signals = \$1,511,507 (18%)
  - Waste = \$114,051 (2%)

### **Greenhouse Gas Emissions**

- The City of Knoxville government generated 76,277 tons of equivalent CO<sub>2</sub> and used 577,379 MMBTUs of energy. These totals are not in addition to the community totals. City energy use is included in the community analysis.

